

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2003-233949
 (43)Date of publication of application : 22.08.2003

(51)Int.Cl.
 G11B 20/10
 G06F 3/06
 G06F 12/14
 G11B 7/30
 G11B 20/12

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 (22)Date of filing : 01.10.2002 (72)Inventor : GOSHIMA HIROSHI

(30)Priority

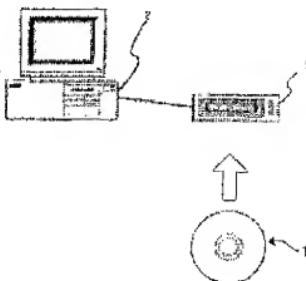
Priority number : 2001373346 Priority date : 06.12.2001 Priority country : JP

(54) WRITABLE OPTICAL DISK, OPTICAL DISK WRITER, PROGRAM FOR DETERMINING MEDIUM, RECORDING MEDIUM, PROGRAM READING METHOD, AND INFORMATION PROCESSING SYSTEM

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a program for determining medium, a recording medium, a program reading method, an information processing system, etc., which disable an illegally copied disk to be used even by a conventional optical disk drive and limit its usage.

SOLUTION: The program is stored in a read-only area of a hybrid CD-R disk 1 together with an application program and read by an information processor 3 before an application program is read; if characteristic information assigned to a manufacture and supply source recorded in a zigzag groove previously formed on the hybrid CD-R disk 1 is not obtained, the application program is inhibited from being read or allowed to be read and when the characteristic information is obtained, the characteristic information is compared with decision making information to decide whether the hybrid CD-R disk 1 is adequate, thereby allowing the application program to be read when so or inhibiting it from being read when not.



LEGAL STATUS

[Date of request for examination] 02.03.2005
 [Date of sending the examiner's decision of rejection] 30.01.2007
 [Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision
of rejection]

[Date of requesting appeal against examiner's
decision of rejection]

[Date of extinction of right]

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CLAIMS

[Claim(s)]

[Claim 1] The mold optical disk which is characterized by to constitute so that a starting process may be stopped, when the related program of said software or software read the disk proper information value of ATIP (Absolute Time In Pre-groove) of said optical disk, it continues a starting process only when said information value is judged to be the right, and said information value is judged to be an error in the mold optical disk with which software is written in beforehand, and which can be written in in case said software is started and which can be written in.

[Claim 2] The mold optical disk according to claim 1 which is characterized by constituting so that a starting process may be stopped, when said software compares the disk proper information value of ATIP of said optical disk with the information value for a judgment currently beforehand held in said software, and it continues a starting process only when both have agreed and both differ, in case the software currently beforehand written in this optical disk is started and which can be written in.

[Claim 3] The mold optical disk according to claim 1 which is characterized by constituting so that a starting process may be stopped, when said software compares the disk proper information value of ATIP of said optical disk with the information value for a judgment currently beforehand written in the specific region of said optical disk, and it continues a starting process only when both have agreed and both differ, in case the software currently beforehand written in this optical disk is started and which can be written in.

[Claim 4] The mold optical disk according to claim 3 which is characterized by having enciphered the information value for a judgment currently beforehand written in the specific region of this optical disk and which can be written in.

[Claim 5] Optical disk write-in equipment characterized by constituting the disk proper information value of ATIP of the mold optical disk given in any 1 term of claims 1-4 which can be written in so that it may write in the specific region of said optical disk.

[Claim 6] It is stored in the field only for said reading of the information record medium equipped with the field only for reading, and the writable area with a main program. Before said main program is read by the computer, it is the program for a medium judging read by this computer. The proper information acquisition process which acquires the proper information currently recorded on the meandering slot currently beforehand formed in said information record medium. The process which forbids reading of said main program when said proper information cannot be acquired according to this proper information acquisition process. The justification judging process of judging the justification of said information record medium based on this proper information when said proper information is able to be acquired according to said proper information acquisition process. The program for a medium judging characterized by having the process which forbids reading of said main program when reading of said main program is permitted when it is judged according to this justification judging process that it is just, and it is judged that it is unjust.

[Claim 7] It is stored in the field only for said reading of the information record medium equipped with the field only for reading, and the writable area with a main program. It is the program for a medium judging read by this computer before a computer reads said main program. The proper information acquisition process which acquires the proper information currently recorded on the meandering slot currently beforehand formed in said information record medium. The process to which reading of said main program is permitted when said proper information cannot be acquired

according to this proper information acquisition process. The justification judging process of judging the justification of said information record medium based on this proper information when said proper information is able to be acquired according to said proper information acquisition process. The program for a medium judging characterized by having the process which forbids reading of said main program when reading of said main program is permitted when it is judged according to this justification judging process that it is just, and it is judged that it is unjust.

[Claim 8] It is the program for a medium judging according to claim 6 or 7 characterized by for said proper information being the manufacture supply former information assigned for every manufacture supply origin of an information record medium, and said proper information acquisition process acquiring said proper information by reading said manufacture supply former information.

[Claim 9] Said justification judging process is a program for a medium judging according to claim 6, 7, or 8 characterized by judging said justification by comparing said proper information with the information for a judgment stored in said program for a medium judging.

[Claim 10] Said justification judging process is a program for a medium judging according to claim 6, 7, or 8 characterized by judging said justification by acquiring the information for a judgment recorded on predetermined fields other than the location which acquired said proper information on said information record medium, and comparing this information for a judgment with said proper information.

[Claim 11] It is the program for a medium judging according to claim 10 which said information for a judgment is enciphered and recorded and is characterized by said justification judging process judging said justification by comparing the information which decoded said information for a judgment enciphered with said proper information.

[Claim 12] The information record medium which recorded the program for medium distinction given in any 1 term of claims 6-11 on the field only for said reading with said main program and in which computer reading is possible.

[Claim 13] Before reading said main program by computer to the information record medium with which it had the field only for reading, and the writable area, and at least one side of a main program and the program for medium distinction was stored in the field only for said reading It is the program reading approach of reading said program for medium distinction by computer. Acquisition of the proper information currently recorded on the meandering slot currently beforehand formed in said information record medium based on said program for medium distinction is tried. When said proper information cannot be acquired, reading of said main program is forbidden. When said proper information is able to be acquired, the justification of said information record medium is judged based on this proper information. The program reading approach characterized by forbidding reading of said main program when reading of said main program is permitted when it is judged that it is just, and it is judged that it is unjust.

[Claim 14] Before reading said main program by computer to the information record medium with which it had the field only for reading, and the writable area, and at least one side of a main program and the program for medium distinction was stored in the field only for said reading It is the program reading approach of reading said program for medium distinction by computer. Acquisition of the proper information currently recorded on the meandering slot currently beforehand formed in said information record medium based on said program for medium distinction is tried. When said proper information cannot be acquired, reading of said main program is permitted. When said proper information is able to be acquired, the justification of said information record medium is judged based on this proper information. The program reading approach characterized by forbidding reading of said main program when reading of said main program is permitted when it is judged that it is just, and it is judged that it is unjust.

[Claim 15] Said proper information is the program reading approach according to claim 13 or 14 which is the manufacture supply former information assigned for every manufacture supply origin of the information record medium currently beforehand recorded on said information record medium, and is characterized by acquiring said proper information by reading said manufacture supply former information.

[Claim 16] Said proper information and said program are the program reading approach according to claim 13, 14, or 15 characterized by judging said justification by comparing the information for a judgment stored in the program currently recorded on said another information record medium.

[Claim 17] The program reading approach according to claim 13, 14, or 15 characterized by judging

said justification by acquiring the information for a judgment recorded on predetermined fields other than the location which acquired said proper information on said information record medium, and comparing this information for a judgment with said proper information.

[Claim 18] Said information for a judgment is the program reading approach according to claim 17 characterized by judging said justification by comparing the information which is enciphered and recorded and decoded said information for a judgment enciphered with said proper information.

[Claim 19] The information record medium with which it had the field only for reading, and the writable area, and at least one side of a main program and the program for medium distinction was stored in the field only for said reading. Before reading said main program to this information record medium, it is the information processing system equipped with the information processor which reads said program for medium distinction. A proper information acquisition means to acquire the proper information currently recorded on the meandering slot currently beforehand formed in said information record medium based on said program for medium distinction, A means to forbid reading of said main program when said proper information cannot be acquired with this proper information acquisition means, A justification judging means to judge the justification of said information record medium based on this proper information when said proper information is able to be acquired with said proper information acquisition means, Information processing system characterized by having a means to forbid reading of said main program when reading of said main program is permitted when it is judged by this justification judging means that it is just, and it is judged that it is unjust.

[Claim 20] The information record medium with which it had the field only for reading, and the writable area, and at least one side of a main program and the program for medium distinction was stored in the field only for said reading. Before reading said main program to this information record medium, it is the information processing system equipped with the information processor which reads said program for medium distinction. A proper information acquisition means to acquire the proper information currently recorded on the meandering slot currently beforehand formed in said information record medium based on said program for medium distinction, A means to permit reading of said main program when said proper information cannot be acquired with this proper information acquisition means, A justification judging means to judge the justification of said information record medium based on this proper information when said proper information is able to be acquired with said proper information acquisition means, Information processing system characterized by having a means to forbid reading of said main program when reading of said main program is permitted when it is judged by this justification judging means that it is just, and it is judged that it is unjust.

[Claim 21] It is the information processing system according to claim 19 or 20 characterized by for said proper information being the manufacture supply former information assigned for every manufacture supply origin of the information record medium currently beforehand recorded on said information record medium, and said proper information acquisition means acquiring said proper information by reading said manufacture supply former information.

[Claim 22] For said proper information and said program, said justification judging means is information processing system according to claim 19, 20, or 21 characterized by judging said justification by comparing the information for a judgment stored in the program currently recorded on said another information record medium.

[Claim 23] Said justification judging means is information processing system according to claim 19, 20, or 21 characterized by judging said justification by acquiring the information for a judgment recorded on predetermined fields other than the location which acquired said proper information on said information record medium, and comparing this information for a judgment with said proper information.
 [Claim 24] It is the information processing system according to claim 23 which said information for a judgment is enciphered and recorded and is characterized by said justification judging means judging said justification by comparing the information which decoded said information for a judgment enciphered with said proper information.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]

[Field of the Invention] This invention relates to the mold optical disk which can be written in, optical disk write-in equipment, the program for a medium judging, a record medium, the program reading approach, and information processing system.

[0002]

[Description of the Prior Art] Conventionally, contents, such as application software, inhibition drawing, and an animation, are distributed with a gestalt with CD-ROM and transposition in many cases (sale).

[0003] Moreover, many molds CD (CD-R, CD-RW, etc.) which can be written in are used for the distribution medium of contents.

[0004] Furthermore, recently, CD (hybrid disk) with the field only for reading and a writable area is developed as a distribution medium of new contents. And distributing as an alternative of CD-ROM, where contents are beforehand written in the field only for reading of this disk (sale) was proposed, and it has begun CD with such a field only for reading and a writable area.

[0005] Then, many approaches are proposed that the contents of the contents currently recorded on these disks are not unjustly copied to other media.

[0006] Contents are enciphered using the proper information peculiar to each of each disk recorded on the conventional injustice by the disk as the anti-copying approach, and it records on a disk, and in reproducing, there is a technique which decrypts these enciphered contents using proper information (for example, patent reference 1 reference.).

[0007] Moreover, ID of the optical disk drive of a valid user is recorded on an optical disk, this ID is compared with ID of an optical disk drive present in use, and when these are in agreement, there is also a technique which starts the program currently recorded on the optical disk (for example, patent reference 2 reference.).

[0008] Furthermore, there is also a technique which reproduces the contents in a disk by setting a disk and a playback authorization medium (for example, IC card) in a regenerative apparatus, reading the playback management information of a disk, and the playback authorization information on an IC card, and collating these (for example, patent reference 3 reference.).

[0009]

[Patent reference 1] JP,2000-100068,A [the patent reference 2] JP,2000-123479,A [the patent reference 3] JP,11-167769,A [0010]

[Problem(s) to be Solved by the Invention] However, by the above-mentioned conventional illegal copy prevention approach, when playback etc. carried out information, such as contents, there was a problem that the optical disk unit corresponding to the illegal copy prevention approach was needed.

[0011] This invention aims at offering the mold optical disk which can be made in order to solve the above-mentioned trouble, can make a specific optical disk unit unnecessary in information playback of a disk etc., and can make impossible use of the disk copied illegally even if it was the conventional optical disk unit, or can limit an application and which can be written in, optical disk write-in equipment, the program for a medium judging, a record medium, the program reading approach, and information processing system.

[0012]

[Means for Solving the Problem] In order to solve the above-mentioned technical problem, according to invention according to claim 1, the mold optical disk which can be written in In the mold optical disk with which software is written in beforehand and which can be written in In case software is started, the related program of software or software reads the disk proper information value of ATIP (Absolute Time In Pre-groove) of an optical disk. Only when an information value is judged to be the right, it continues a starting process, and when an information value is judged to be an error, it is characterized by constituting so that a starting process may be stopped.

[0013] According to invention according to claim 2, the mold optical disk which can be written in In case the software currently beforehand written in the optical disk is started, software The disk proper information value of ATIP of an optical disk, The information value for a judgment currently held beforehand is compared in software, only when both have agreed, it continues a starting process, and when both differ, it is characterized by being the mold optical disk according to claim 1 which was constituted so that a starting process might be stopped and which can be written in.

[0014] According to invention according to claim 3, the mold optical disk which can be written in In case the software currently beforehand written in the optical disk is started, software The disk proper information value of ATIP of an optical disk, The information value for a judgment currently beforehand written in the specific region of an optical disk is compared, only when both have agreed, it continues a starting process, and when both differ, it is characterized by being the mold optical disk according to claim 1 which was constituted so that a starting process might be stopped and which can be written in.

[0015] According to invention according to claim 4, the mold optical disk which can be written in is characterized by being the mold optical disk according to claim 3 which has enciphered the information value for a judgment currently beforehand written in the specific region of an optical disk and which can be written in.

[0016] According to invention according to claim 5, optical disk write-in equipment is characterized by constituting the disk proper information value of ATIP of the mold optical disk given in any 1 term of claims 1-4 which can be written in so that it may write in the specific region of an optical disk.

[0017] According to invention according to claim 6, the program for a medium judging It is stored in the field only for reading of the information record medium equipped with the field only for reading, and the writable area with a main program. The proper information acquisition process which acquires the proper information currently recorded on the meandering slot which is the program for a medium judging read by the computer, and is beforehand formed in the information record medium before a main program is read by computer, The process which forbids reading of a main program when proper information cannot be acquired according to a proper information acquisition process, The justification judging process of judging the justification of an information record medium based on proper information when proper information is able to be acquired according to a proper information acquisition process, When it is judged according to a justification judging process that it is just, reading of a main program is permitted, and when it is judged that it is unjust, it is characterized by having the process which forbids reading of a main program.

[0018] According to invention according to claim 7, the program for a medium judging It is stored in the field only for reading of the information record medium equipped with the field only for reading, and the writable area with a main program. The proper information acquisition process which acquires the proper information currently recorded on the meandering slot which is the program for a medium judging read by the computer, and is beforehand formed in the information record medium before a computer reads a main program, The process to which reading of a main program is permitted when proper information cannot be acquired according to a proper information acquisition process, The justification judging process of judging the justification of an information record medium based on proper information when proper information is able to be acquired according to a proper information acquisition process, When it is judged according to a justification judging process that it is just, reading of a main program is permitted, and when it is judged that it is unjust, it is characterized by having the process which forbids reading of a main program.

[0019] It is the program for a medium judging according to claim 6 or 7 which is characterized by for the program for a medium judging being the manufacture supply former information that proper information was assigned for every manufature supply origin of an information record medium, and

a proper information acquisition process acquiring said proper information by reading said manufacture supply former information according to invention according to claim 8.

[0020] According to invention according to claim 9, the program for a medium judging is characterized by a justification judging process being a program for a medium judging according to claim 6, 7, or 8 which judges justification by comparing proper information with the information for a judgment stored in the program for a medium judging.

[0021] According to invention according to claim 10, the program for a medium judging is characterized by a justification judging process being a program for a medium judging according to claim 6, 7, or 8 which judges justification by acquiring the information for a judgment recorded on predetermined fields other than the location which acquired the proper information on an information record medium, and comparing the information for a judgment with proper information.

[0022] According to invention according to claim 11, the information for a judgment is enciphered, the program for a medium judging is recorded, and a justification judging process is characterized by being the program for a medium judging according to claim 10 which judges justification by comparing the information and proper information which decoded the information for a judgment enciphered.

[0023] According to invention according to claim 12, a record medium is characterized by being the information record medium which read the program for medium distinction of a publication with the main program in any 1 term of claims 6-11, and was recorded on the exclusive field and in which computer reading is possible.

[0024] According to invention according to claim 13, the program reading approach Before reading a main program by computer to the information record medium with which it had the field only for reading, and the writable area, and at least one side of a main program and the program for medium distinction was stored in the field only for reading It is the program reading approach of reading the program for medium distinction by computer. Acquisition of the proper information currently recorded on the meandering slot currently beforehand formed in the information record medium based on the program for medium distinction is tried. When proper information cannot be acquired, reading of a main program is forbidden. When proper information is able to be acquired, the justification of an information record medium is judged based on proper information, when it is judged that it is just, reading of said main program is permitted, and when it is judged that it is unjust, it is characterized by forbidding reading of a main program.

[0025] According to invention according to claim 14, the program reading approach Before reading a main program by computer to the information record medium with which it had the field only for reading, and the writable area, and at least one side of a main program and the program for medium distinction was stored in the field only for reading It is the program reading approach of reading the program for medium distinction by computer. Acquisition of the proper information currently recorded on the meandering slot currently beforehand formed in the information record medium based on the program for medium distinction is tried. When proper information cannot be acquired, reading of a main program is permitted. When proper information is able to be acquired, the justification of an information record medium is judged based on proper information, when it is judged that it is just, reading of said main program is permitted, and when it is judged that it is unjust, it is characterized by forbidding reading of a main program.

[0026] According to invention according to claim 15, the program reading approach is characterized by for proper information being the manufacture supply former information assigned for every manufacture supply origin of the information record medium currently beforehand recorded on the information record medium, and being the program reading approach according to claim 13 or 14 which acquires proper information by reading manufacture supply former information.

[0027] According to invention according to claim 16, the program reading approach is characterized by proper information and a program being the program reading approaches according to claim 13, 14, or 15 of judging justification by comparing the information for a judgment stored in the program currently recorded on another information record medium.

[0028] the program reading approach according to claim 13, 14, or 15 of judging justification by according to invention according to claim 17 the program reading approach's acquiring the information for a judgment recorded on predetermined fields other than the location which acquired the proper information on an information record medium, and comparing the information for a

judgment with proper information — it is characterized by things.

[0029] According to invention according to claim 18, the information for a judgment is enciphered and recorded and the program reading approach is characterized by being the program reading approach according to claim 17 of judging said justification by comparing the information and proper information which decoded the information for a judgment enciphered.

[0030] According to invention according to claim 19, information processing system The information record medium with which it had the field only for reading, and the writable area, and at least one side of a main program and the program for medium distinction was stored in the field only for reading, Before reading a main program to an information record medium, it is the information processing system equipped with the information processor which reads the program for medium distinction. A proper information acquisition means to acquire the proper information currently recorded on the meandering slot currently beforehand formed in the information record medium based on the program for medium distinction, A means to forbid reading of a main program when proper information cannot be acquired with a proper information acquisition means, A justification judging means to judge the justification of an information record medium based on proper information when proper information is able to be acquired with a proper information acquisition means, When it is judged by the justification judging means that it is just, reading of a main program is permitted, and when it is judged that it is unjust, it is characterized by having a means to forbid reading of a main program.

[0031] According to invention according to claim 20, information processing system The information record medium with which it had the field only for reading, and the writable area, and at least one side of a main program and the program for medium distinction was stored in the field only for reading, Before reading a main program to an information record medium, it is the information processing system equipped with the information processor which reads the program for medium distinction. A proper information acquisition means to acquire the proper information currently recorded on the meandering slot currently beforehand formed in the information record medium based on the program for medium distinction, A means to permit reading of a main program when proper information cannot be acquired with a proper information acquisition means, A justification judging means to judge the justification of an information record medium based on proper information when proper information is able to be acquired with a proper information acquisition means, When it is judged by the justification judging means that it is just, reading of a main program is permitted, and when it is judged that it is unjust, it is characterized by having a means to forbid reading of a main program.

[0032] According to invention according to claim 21, information processing system is the manufacture supply former information that proper information was assigned for every manufacture supply origin of the information record medium currently beforehand recorded on the information record medium, and a proper information acquisition means is characterized by being the information processing system according to claim 19 or 20 which acquires proper information by reading manufacture supply former information.

[0033] According to invention according to claim 22, information processing system is characterized by a justification judging means being information processing system according to claim 19, 20, or 21 which judges justification by comparing the information for a judgment stored in the program currently recorded on information record medium with another proper information and program.

[0034] According to invention according to claim 23, information processing system is characterized by a justification judging means being information processing system according to claim 19, 20, or 21 which judges justification by acquiring the information for a judgment recorded on predetermined fields other than the location which acquired the proper information on an information record medium, and comparing the information for a judgment with proper information.

[0035] According to invention according to claim 24, the information for a judgment is enciphered, information processing system is recorded, and a justification judging means is characterized by being the information processing system according to claim 23 which judges justification by comparing the information and proper information which decoded the information for a judgment enciphered.

[0036]

[Embodiment of the Invention] Next, with reference to an accompanying drawing, the mold optical disk by this invention which can be written in, optical disk write-in equipment, the program for a medium judging, a record medium, the program reading approach, and the gestalt of operation of information processing system are explained to a detail.

[0037] Drawing 1 is the schematic diagram showing the operating environment of the program for an illegal copy judging concerning this invention.

[0038] In this operation gestalt, it explains taking the case of CD-R (mold compact disk which can be written in) of the hybrid mold which read as an information record medium to be used and was equipped with the exclusive field and the writable area.

[0039] In drawing 1, the hybrid CD-R disk 1 is inserted in the optical disk units 2, such as CD-R / RW drive connected to the information processor 3 represented by PC, and it is used for it for the application program on [from an information processor 3] the hybrid CD-R disk 1, starting.

[0040] That is, the application program stored in the hybrid CD-R disk 1 receives the playback instruction from an information processor 3, and is reproduced by the ***** optical disk unit 2. Moreover, when a record instruction is received from an information processor 3, an optical disk unit 2 records information on said disk 1. This actuation is further explained to a detail below.

[0041] Drawing 2 is the functional block diagram showing an example of the important section configuration about CD-R / RW drive 2 in drawing 1.

[0042] In drawing 2 CD-R / RW drive 2 The same optical disk 1 as the inside of drawing 1, a spindle motor 202, and an optical pickup 203, Motor Driver 204, the lead amplifier 205, and the servo means 206, The CD decoder 207, the ATIP decoder 208, and the laser controller 209, The CD encoder 210, the CD-ROM encoder 211, and a buffer RAM 212 It consists of the buffer manager 213, the CD-ROM decoder 214, the ATAPI/SCSI interface 215, D/A converter 216, ROM217, and CPU218 and RAM219. Moreover, LB shows a laser beam and Audio shows an audio output signal.

[0043] In this drawing 2 , in order to show the direction where data mainly flow and to simplify drawing, an arrow head attaches only a thick wire to CPU218 which controls each block of drawing 2 , and is omitting connection with each block to it. The control program described in code decipherable by CPU218 is stored in ROM217.

[0044] In addition, if the power source of an optical disk drive (CD-R / RW drive 2) is turned on, said program is loaded to non-illustrated main memory, and CPU218 saves data required for control etc. temporarily at RAM219 while controlling actuation of each part of the above according to the program.

[0045] The configuration and actuation of an optical disk drive (CD-R / RW drive 2) are as follows.

[0046] The rotation drive of the optical disk 1 (hybrid CD-R disk 1) is carried out by the spindle motor 202. This spindle motor 202 is controlled by Motor Driver 204 and the servo means 206 so that linear velocity becomes fixed. This linear velocity can be changed in stairway.

[0047] The optical pickup 203 builds in the semiconductor laser which is not illustrated, optical system, the focal actuator, the truck actuator, and the photo detector, and irradiates a laser beam LB at an optical disk 1. Moreover, migration in the direction of Sledge is possible for this optical pickup 203 by the seeking motor.

[0048] Based on the signal acquired from a photo detector, these focal actuators, a truck actuator, and a seeking motor are controlled so that the spot of a laser beam LB is located in the location of the purpose on an optical disk 1 with Motor Driver 204 and the servo means 205.

[0049] And after the regenerative signal acquired by the optical pickup 203 at the time of a lead is amplified and made binary with the lead amplifier 205, it is inputted into the CD decoder 207.

[0050] It sets to this CD decoder 207, and the inputted binary-ized data are EFM (Eight to

Fourteen Modulation). It gets over.

[0051] In addition, 8 bits of record data are gathered at a time, eight-to-fourteen modulation is carried out, and in this eight-to-fourteen modulation, they change 8 bits into 14 bits, carry out triplet addition of the joint bit, and make it a total of 17 bits. In this case, a joint bit is attached so that the number till then of "1" and "0" may become equal on the average. This is called "control of DC component" and the slice level fluctuation of a regenerative signal by which DC cut was carried out is oppressed.

[0052] As for the data to which it restored, processing of a day interleave and an error correction

is performed. Then, in order to input this data into the CD-ROM decoder 214 and to raise the dependability of data, processing of an error correction is performed further.

[0053] Thus, the data with which two processings of an error correction were performed are once stored in a buffer RAM 212 by the buffer manager 213, and are transmitted to a host computer as shown in drawing 3 at a stretch through ATAPI / SCSI interface 215 in the condition of having gathered as sector data.

[0054] In addition, in the case of music data, the data outputted from the CD decoder 207 are inputted into D/A converter 216, and are taken out as an audio output signal Audio of an analog.

[0055] Moreover, the data which let ATAPI / SCSI interface 215 pass, and have been sent from the host computer at the time of Wright are once stored in a buffer RAM 212 by the buffer manager 213.

[0056] And although the Wright actuation is started where a certain amount of quantity of data are stored into a buffer RAM 212, it is necessary to write in a laser spot before that and to make it located in an initiation point in this case. This point is called for by the wobble signal beforehand minced by meandering (meandering slot) of a truck on the optical disk 1.

[0057] The absolute time information called ATIP is included in the wobble signal, and this information is taken out by the ATIP decoder 208.

[0058] Moreover, the synchronizing signal generated by this ATIP decoder 208 is inputted into the CD encoder 210, and enables the writing of the data to the exact location on an optical disk 1.

[0059] In the CD-ROM encoder 211 or the CD encoder 210, addition of an error correction code and an interleave are performed and the data of a buffer RAM 212 are recorded on an optical disk 1 through the laser controller 209 and an optical pickup 203.

[0060] In addition, the data by which eight-to-fourteen modulation was carried out drive laser by channel bit rate 4.3218Mbps (standard speed) as a bit stream. The record data in this case constitute the EFM frame from 588-channel bitwise. A channel clock means the clock of the frequency of this channel bit. The above is the configuration of the optical disk drive of drawing 2, and an outline of operation.

[0061] Drawing 3 is the outline block diagram of the information processor 3 in drawing 1 to which the above optical disk drives 2 (CD-R / RW drive 2) were connected.

[0062] In drawing 3, an information processor 3 consists of an interface 301, a main control unit 302, a recording device 305, an input unit 303, and a display 304.

[0063] A main control unit 302 is constituted including a microcomputer, main memory (all are un-illustrating), etc., and controls the whole information processor 3.

[0064] An interface 301 is a bidirectional communication link interface with an optical disk drive, and is based on standard interfaces, such as ATAPI and SCSI. The interface 301 is connected with the interface (for example, 215 of drawing 2) of an optical disk drive.

[0065] In addition, the topology during each interface may be wireless connection not only using the cable splicing which used communication wires, such as a telecommunication cable (for example, SCSI cable), but infrared radiation etc.

[0066] The program described in code decipherable [with the microcomputer of a main control unit 302] is stored in the recording device 305 which consists of hard disks etc. In addition, when the drive power source of an information processor 3 is turned on, the above-mentioned program is loaded to the main memory of a main control unit 302.

[0067] An indicating equipment 304 is equipped with displays (illustration abbreviation), such as a cathode-ray tube (CRT), a liquid crystal display (LCD), and a plasma display panel (PDP), and displays the various information from a main control unit 302.

[0068] An input device 303 is equipped with at least one input medium (illustration abbreviation) among a keyboard, a mouse, a pointing device, etc., and notifies the various information inputted by the user to a main control unit 302.

[0069] In addition, the information from an input medium may be inputted by the wireless method. Moreover, for example, the display 304 and the input unit 303 may be unified like CRT with a touch panel.

[0070] Moreover, the information processor 3 carries the operating system (henceforth "OS"). And all the devices that constitute an information processor shall be managed by OS.

[0071] Drawing 4 is the schematic diagram having shown the structure of the hybrid mold CD-R

disk (mold compact disk which can be written in) shown by one in drawing 1 .

[0072] The hybrid mold CD-R disk 1 serves as the record format of a multi-session that two or more formation of the session is carried out. And the pit by which the first session read and the stamp was beforehand carried out as an exclusive field (ROM field) is formed.

[0073] Among drawing 4 , four show this first session and the software program which wrote in the application program (program for a medium judging) which had an illegal copy judging function in this field, the program of Maine, etc. is stored.

[0074] In addition, in this example, although the CD-R disk is assumed as a mold compact disk which can be written in, on a CD-R disk, ATIP (Absolute Time In Pre-groove) is generated in the production process.

[0075] In addition, the program for a medium judging and the main program may be recorded on the same session (for example, the first session), and may be recorded on the separate session.

[0076] As shown in drawing 5 , in the common CD-R disk (mold compact disk which can be written in), that recording track consists of land L and the groove section G, and this groove G is carrying out slight amount meandering radial. It is this Wobbling (Wobbling), a call, and Push-Pull The signal detected by Channel etc. is called a wobble (Wobble) signal. The amount of meandering is about **0.03 micrometers.

[0077] When a wobble signal rotates a disk by standard speed, FM modulation of the center frequency is carried out by 22.05kHz**1kHz. Red which is the standard document of CD-R exactly when spindle motor rotation is controlled so that this center frequency is set to 22.05kHz It comes to rotate by linear-velocity 1.2 m/S to 1.4 m/S which Book specifies.

[0078] FM modulation is carried out and the absolute time information on a disk is superimposed. Although this is encoded by Q sub-codes by the CD-ROM disk, since this information is not acquired by the disk before record, it is encoded by the wobble signal. This technique is called ATIP (Absolute Time In Pre-groove).

[0079] 1ATIP sector is in agreement with 1 data sector (2352Byte) of the Maine channel after record, and writing is performed, taking the synchronization of an ATIP sector and a data sector.

[0080] Every time ATIP information is encoded by the wobble signal as it is, it is not broken, but like drawing 6 , once a Bi-Phase modulation is applied, FM modulation of it is carried out. This is for using a wobble signal also for a roll control. That is, 1 and 0 interchange for every predetermined period by the Bi-Phase modulation, and he makes it the average number of 1 and 0 set to 1:1, and is trying to set the average frequency of the wobble signal when carrying out FM modulation to 22.05kHz.

[0081] In addition, in ATIP, it is Special in addition to a hour entry. As Information, the start time of record laser power setting information or lead-in groove area, the time amount of lead-out area which can be started are encoded. In the case of the record format of a multi-session, it is this Special. Information is encoded in the lead-in groove area of the first session (disk radius 50mm inner circumference side).

[0082] On the disk 1 of this operation gestalt, a meandering slot (wobble) is formed in the production process not only to the writable area after the second session but to the ROM field of the first session. And ATIP (Absolute Time In Pre-groove) is generated by this meandering slot.

[0083] Special in ATIP The information on the time amount (Last Possible Start Time of Lead out Area) of lead-out area which can be started is included in Information, and this information is Minute, Second It consists of each information on Frame, and the value is assigned to each.

[0084] About Frame (frame) information, the economic organization "Orange Forum" is assigning two or more characteristic value to each media vendor (manufacture supply origin of a disk) among such information, and he is trying for each media vendor to assign said assigned characteristic value to the media of its company.

[0085] That is, Last of ATIP of each hybrid CD-R disk 1 Possible Start Time of Lead out The frame value of Area has the value of a proper for every class of media, and this value is Read to a drive. By executing the ATIP command, it is acquirable. In addition, about the hybrid CD-R disk 1, ATIP, etc., it is detailed to "Orange Book."

[0086] In this example, the above "the frame value of Last Possible Start Time of Lead out Area of ATIP" (henceforth frame value) shall be used as a disk proper information value. Moreover, this example explains the disk which has the value -FF- (hex), as said frame value as what is used as a

disk concerning this invention.

[0087] Hereafter, the mold optical disk by this invention which can be written in, optical disk write-in equipment, the program for a medium judging, a record medium, the program reading approach, and the 1st example of 1 operation gestalt slack of information processing system are explained.

[0088] Drawing 7 is a flow chart which shows the example of the control device in the information processor in the case of reproducing the program stored in the disk 1 (302 of drawing 3) of operation. In addition, the actuation by this flow chart shows the actuation when using the above-mentioned disk (mold compact disk which can be written in) shown in drawing 4 in the above-mentioned system shown in drawing 1 thru/drawing 3.

[0089] If a user is going to reproduce the main program stored in the disk 1, a control unit 302 will reproduce the program for a medium judging in advance of playback of the main program (S5).

Processing and actuation of the following steps are the processing and actuation which a control unit 302 performs according to the program for a medium judging. Here, the main program and the program for medium distinction may be stored in the disk as a different program, respectively, and the main program may have the function of the program for medium distinction.

[0090] Following this program for medium distinction, a control device 302 is Read. The ATIP command is published to a disk drive 3 (S6). A disk drive 3 is this Read. It is based on the ATIP command and is Special in lead-in groove area. Acquisition of ATIP which has Information will be tried.

[0091] And a control unit 302 processes S8, when this ATIP is able to be acquired, and when it is not able to acquire, starting of the main program in S12 is stopped (S7). That is, for example, it is Read by the control unit 302 like the drive only for playbacks. Even if the ATIP command is published, when actuation according to it cannot be performed and ATIP cannot be acquired, playback of a main program is forbidden.

[0092] By doing in this way, it can prevent reproducing the main program of hybrid mold CD-R distributed and sold on the assumption that a certain record is performed by the drive only for playbacks. Thereby, when the subsequent control device 302 publishes a record instruction to a drive, it can prevent becoming an error in advance.

[0093] When a control unit 302 is able to acquire predetermined ATIP, a control unit 302 acquires said frame value included in the information (S8).

[0094] Next, for details, a control device 302 is later mentioned, although it judges whether a disk in use is a just disk (S9).

[0095] In judgment processing of S9, when judged with a disk being just by the control device 302, it progresses to processing of S11 and a main program is started. On the other hand, when it is judged that a disk is not just, it progresses to S12 and starting of a main program is stopped (S10).

[0096] When playback of a main program is permitted or forbidden, the control of a control unit 302 based on the program for a medium judging is ended (S13). Playback of the main program in the disk copied unjustly by this can be prevented effectively.

[0097] An example of processing of the justification judging which the control unit 302 in the above-mentioned S9 performs to drawing 9 is shown.

[0098] In S8, if a control unit 302 acquires a frame value, a control unit 302 will read the frame value for a judgment stored in the program for a medium judging (S18).

[0099] Next, a control unit 302 compares the frame value acquired from Above ATIP in S8 with the frame value for a judgment read in S18, when both are in agreement, it judges that the disk is just, and in the case of an inequality, it is judged that the disk is unjust justly that is, (S19).

[0100] Other examples of processing of the justification judging which the control unit 302 in the above-mentioned S9 performs to drawing 10 are shown.

[0101] In S8, if a control device 302 acquires a frame value, a control device 302 will read the frame value for a judgment currently recorded on the specific region of a disk (S20).

[0102] When recording in the ISO9660 format, as this specific region, the application area (offset 883-1395) in PVD (Primary Volume Descriptor) etc. can be considered.

[0103] Moreover, if -FF- of the frame value for a judgment currently written in the specific region in this disk is enciphered, it is avoidable that this frame value for a judgment reveals a specific region to a third person even if read by sector discharge etc. Here, as a method of encryption, well-known cipher systems, such as DES (Data Encryption Standard), can be considered.

[0104] In addition, when enciphering a frame value, based on the program for a medium judging, a control unit 302 will acquire the frame value for a judgment by performing decryption processing of the enciphered frame value. The program for a medium judging itself may have the key which solves a code at this time, and it may require the input from a user.

[0105] Next, a control unit 302 compares the frame value acquired from Above ATIP in S8 with the frame value for a judgment read in S20, when both are in agreement, it judges that the disk is just, and in the case of an inequality, it is judged that the disk is unjust justly that is, (S19).

[0106] Last of ATIP in the disk of a copy place when hybrid CD-R concerning this invention is reproduced here Possible Start Time of Lead out The frame value of Area serves as -FF and except.

[0107] Therefore, for the first example and other examples of the judgment approach, the disk copied illegally is a frame value for a judgment (-FF-), and Read. Since the frame value (-FF and except) read by the ATIP command is not in agreement, whether it is that to which the disk was copied unjustly can judge it, and a main program will not start it as a result. That is, it becomes what "it cannot use contents for even if a copy is made."

[0108] Next, the mold optical disk by this invention which can be written in, optical disk write-in equipment, the program for a medium judging, a record medium, the program reading approach, and the 2nd example of 1 operation gestalt slack of information processing system are explained.

[0109] Drawing 8 is a flow chart which shows the example of the control device in the information processor in the case of reproducing the program stored in the disk 1 (302 of drawing 3) of operation. In addition, the actuation by this flow chart shows the actuation when using the above-mentioned disk (mold compact disk which can be written in) shown in drawing 4 in the above-mentioned system shown in drawing 1 thru/or drawing 3 .

[0110] If a user is going to reproduce the main program stored in the disk 1, a control unit 302 will reproduce the program for a medium judging in advance of playback of the main program (S5). Processing and actuation of the following steps are the processing and actuation which a control unit 302 performs according to the program for a medium judging.

[0111] Here, the main program and the program for medium distinction may be stored in the disk as a different program, respectively, and the main program may have the function of the program for medium distinction.

[0112] Following this program for medium distinction, a control device 302 is Read. The ATIP command is published to a disk drive 3 (S6). A disk drive 3 is this Read. It is based on the ATIP command and is Special in lead-in groove area. Acquisition of ATIP which has Information will be tried.

[0113] And a control unit 302 processes S8, when this ATIP is able to be acquired, and when it is not able to be acquired, it starts the main program in S15 (S14). That is, for example, it is Read by the control unit 302 like the drive only for playbacks. Even if the ATIP command is published, when actuation according to it cannot be performed and ATIP cannot be acquired, playback of a main program is permitted.

[0114] Reproducing the main program of hybrid mold CD-R distributed and sold by doing in this way on the assumption that a certain record is performed by the drive only for playbacks will only be permitted. In this case, you may make it reproduce only the program of a part of main program. By performing only playback, the hybrid disk can be used as the so-called disk for a demonstration.

[0115] When a control unit 302 is able to acquire predetermined ATIP, a control unit 302 acquires said frame value included in the information (S8).

[0116] Next, a control device 302 judges whether a disk in use is a just disk (S9). This processing is the same as that of what was explained by above-mentioned drawing 9 and drawing 10 .

[0117] In judgment processing of S9, when judged with a disk being just by the control device 302, it progresses to processing of S15 and a main program is started. On the other hand, when it is judged that a disk is not just, it progresses to S16 and starting of a main program is stopped (S10).

[0118] When playback of a main program is permitted or forbidden, the control of a control unit 302 based on the program for a medium judging is ended (S17).

[0119] Playback of the main program in the disk copied unjustly by this can be prevented effectively.

[0120] In addition, the creation approach of the disk used for this invention is explained focusing on the approach of recording the frame value for a judgment on the specific region of said disk.

[0121] Drawing 11 is the flow chart which showed creation actuation of a disk focusing on the processing which writes the disk proper information value of ATIP in the specific region of the disk 1 used by this invention as a frame value for a judgment. In addition, by this approach, ISO9660 is adopted as a logical format of the target disk.

[0122] Explanation of this example is performed using the system which explained by drawing 1 thru/or drawing 3 . A control unit 302 starts write-in processing by user demand (S22).

[0123] First, a control device 302 reads write-in data from recording device 305 grade on memory in a control device (S23).

[0124] Then, a control device 302 is once created on a recording apparatus 305 (hard disk) etc. by making the read write-in target data into an image file as a file creation phase (S24). In addition, an application program with an illegal copy judging function, i.e., the program for a medium judging and a main program, is contained in this data for writing.

[0125] Next, a control device 302 is after an image file creation phase and Read. The ATIP command is published (S25).

[0126] A control device 302 is Read about the ATIP information on the disk for writing. It acquires with the ATIP command, is a frame value acquisition phase, and is Last. PossibleStart Time of Lead out The frame value of Area is acquired (S26).

[0127] Furthermore, a control device 302 writes the acquired frame value in the specific region in an image file (S27). Here, the specific region where frame information is embedded is an application area (offset 883-1395) in PVD (Primary Volume Descriptor) of ISO9660 format etc., as shown in drawing 7 . moreover, frame information — a frame value — you may remain as it is — what enciphered the frame value may be used.

[0128] Then, a control device 302 writes the image file where frame information was embedded in a disk (S28), and ends write-in processing (S29).

[0129] Thus, the program for a medium judging is written in the first session of the created disk as an application program with an illegal copy judging function, and -FF- which is a frame value for a judgment is written in the specific region (application area of PVD) of this disk.

[0130] Moreover, although the case where it records to the usual CD-R disk is explained by this example using the system of drawing 1 thru/or drawing 3 since it is easy, this invention is not restricted to this example. That is, each processing shown in drawing 11 is performed, and after writing the frame value acquired by S27 in the PVD field in an image file, you may make it manufacture CD-R of a hybrid mold through mastering, the La Stampa creation, and a replication process by the system other than the above-mentioned system like the usual CD production process.

[0131] In addition, although this example explained the case where hybrid mold CD-R was mainly used, as an archive medium, it is not restricted to this but can apply to the media (information record medium) which have writable areas, such as CD-R/RW, DVD+RW/+R, hybrid mold CD-RW, hybrid mold DVD+RW/+R.

[0132]

[Effect of the Invention] According to this invention, in information playback of the disk equipped with the illegal copy judging function etc., a special optical disk unit can be made unnecessary, and use of the disk copied illegally even if it was the conventional optical disk unit can be made impossible, or an application can be limited.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the schematic diagram showing the operating environment of the media with an illegal copy judging function concerning this invention.

[Drawing 2] It is the outline block diagram of the optical disk unit used by this invention.

[Drawing 3] It is the outline block diagram of the high order equipment used by this invention.

[Drawing 4] It is the mimetic diagram of the information record medium used by this invention.

[Drawing 5] It is the mimetic diagram of the recording track of the information record medium used by this invention.

[Drawing 6] It is drawing having shown the ATIP information which the information record medium used by this invention has.

[Drawing 7] It is the first flow chart of the actuation which judges the justification of the medium concerning this invention.

[Drawing 8] It is the second flow chart of the actuation which judges the justification of the medium concerning this invention.

[Drawing 9] It is the flow chart which shows an example of the judgment approach in the judgment routine concerning this invention.

[Drawing 10] It is the flow chart which shows other examples of the judgment approach in the judgment routine concerning this invention.

[Drawing 11] It is the flow chart which shows the processing which writes the program and frame value which are used by this invention in an information record medium.

[Drawing 12] It is the conceptual diagram showing the specific region which has the frame information concerning this invention produced.

[Description of Notations]

1 Hybrid CD-R Disk (Mold Compact Disk Which Can be Written in)

2 CD-R / RW Drive (Optical Disk Unit)

3 PC (Information Processor)

[Translation done.]

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WRITTEN AMENDMENT

[a procedure revision]

[Filing Date] October 8, Heisei 14 (2002. 10.8)

[Procedure amendment 1]

[Document to be Amended] Specification

[Item(s) to be Amended] Claim

[Method of Amendment] Modification

[Proposed Amendment]

[Claim(s)]

[Claim 1] The mold optical disk which is characterized by to constitute so that a starting process may be stopped, when the related program of said software or software read the disk proper information value of ATIP (Absolute Time In Pre-groove) of said optical disk, it continues a starting process only when said information value is judged to be the right, and said information value is judged to be an error in the mold optical disk with which software is written in beforehand, and which can be written in case said software is started and which can be written in.

[Claim 2] The mold optical disk according to claim 1 which is characterized by constituting so that a starting process may be stopped, when said software compares the disk proper information value of ATIP of said optical disk with the information value for a judgment currently beforehand held in said software, and it continues a starting process only when both have agreed and both differ, in case the software currently beforehand written in this optical disk is started and which can be written in.

[Claim 3] The mold optical disk according to claim 1 which is characterized by constituting so that a starting process may be stopped, when said software compares the disk proper information value of ATIP of said optical disk with the information value for a judgment currently beforehand written in the specific region of said optical disk, and it continues a starting process only when both have agreed and both differ, in case the software currently beforehand written in this optical disk is started and which can be written in.

[Claim 4] The mold optical disk according to claim 3 which is characterized by having enciphered the information value for a judgment currently beforehand written in the specific region of this optical disk and which can be written in.

[Claim 5] Optical disk write-in equipment characterized by constituting the disk proper information value of ATIP of the mold optical disk given in any 1 term of claims 1-4 which can be written in so that it may write in the specific region of said optical disk.

[Claim 6] Before it is stored in the field only for said reading of the information record medium equipped with the field only for reading, and the writable area with a main program and said main program is read by the computer, it is the program for a medium judging read by this computer. To said computer

The proper information acquisition process which acquires the proper information currently recorded on the meandering slot currently beforehand formed in said information record medium. The process which forbids reading of said main program when said proper information cannot be acquired according to this proper information acquisition process.

The justification judging process of judging the justification of said information record medium based on this proper information when said proper information is able to be acquired according to

said proper information acquisition process,

The process which forbids reading of said main program when reading of said main program is permitted when it is judged according to this justification judging process that it is just, and it is judged that it is unjust,

The program for a medium judging for making it perform.

[Claim 7] It is the program for a medium judging read by this computer before it is stored in the field only for said reading of the information record medium equipped with the field only for reading, and the writable area with a main program and a computer reads said main program,

To said computer

The proper information acquisition process which acquires the proper information currently recorded on the meandering slot currently beforehand formed in said information record medium, The process to which reading of said main program is permitted when said proper information cannot be acquired according to this proper information acquisition process,

The justification judging process of judging the justification of said information record medium based on this proper information when said proper information is able to be acquired according to said proper information acquisition process,

The process which forbids reading of said main program when reading of said main program is permitted when it is judged according to this justification judging process that it is just, and it is judged that it is unjust,

The program for a medium judging for making it perform.

[Claim 8] It is the program for a medium judging according to claim 6 or 7 characterized by for said proper information being the manufacture supply former information assigned for every manufacture supply origin of an information record medium, and said proper information acquisition process acquiring said proper information by reading said manufacture supply former information.

[Claim 9] Said justification judging process is a program for a medium judging according to claim 6, 7, or 8 characterized by judging said justification by comparing said proper information with the information for a judgment stored in said program for a medium judging.

[Claim 10] Said justification judging process is a program for a medium judging according to claim 6, 7, or 8 characterized by judging said justification by acquiring the information for a judgment recorded on predetermined fields other than the location which acquired said proper information on said information record medium, and comparing this information for a judgment with said proper information.

[Claim 11] It is the program for a medium judging according to claim 10 which said information for a judgment is enciphered and recorded and is characterized by said justification judging process judging said justification by comparing the information which decoded said information for a judgment enciphered with said proper information.

[Claim 12] The information record medium which recorded the program for medium distinction given in any 1 term of claims 6-11 on the field only for said reading with said main program and in which computer reading is possible.

[Claim 13] Before reading said main program by computer to the information record medium with which it had the field only for reading, and the writable area, and at least one side of a main program and the program for medium distinction was stored in the field only for said reading, it is the program reading approach of reading said program for medium distinction by computer, Acquisition of the proper information currently recorded on the meandering slot currently beforehand formed in said information record medium based on said program for medium distinction is tried,

When said proper information cannot be acquired, reading of said main program is forbidden,

When said proper information is able to be acquired, the justification of said information record medium is judged based on this proper information,

When it is judged that it is just, reading of said main program is permitted,

The program reading approach characterized by forbidding reading of said main program when it is judged that it is unjust,

[Claim 14] Before reading said main program by computer to the information record medium with which it had the field only for reading, and the writable area, and at least one side of a main program and the program for medium distinction was stored in the field only for said reading, it is

the program reading approach of reading said program for medium distinction by computer, Acquisition of the proper information currently recorded on the meandering slot currently beforehand formed in said information record medium based on said program for medium distinction is tried,

When said proper information cannot be acquired, reading of said main program is permitted, When said proper information is able to be acquired, the justification of said information record medium is judged based on this proper information,

When it is judged that it is just, reading of said main program is permitted, The program reading approach characterized by forbidding reading of said main program when it is judged that it is unjust.

[Claim 15] Said proper information is the program reading approach according to claim 13 or 14 which is the manufacture supply former information assigned for every manufacture supply origin of the information record medium currently beforehand recorded on said information record medium, and is characterized by acquiring said proper information by reading said manufacture supply former information.

[Claim 16] Said proper information and said program are the program reading approach according to claim 13, 14, or 15 characterized by judging said justification by comparing the information for a judgment stored in the program currently recorded on said another information record medium.

[Claim 17] The program reading approach according to claim 13, 14, or 15 characterized by judging said justification by acquiring the information for a judgment recorded on predetermined fields other than the location which acquired said proper information on said information record medium, and comparing this information for a judgment with said proper information.

[Claim 18] Said information for a judgment is the program reading approach according to claim 17 characterized by judging said justification by comparing the information which is enciphered and recorded and decoded said information for a judgment enciphered with said proper information.

[Claim 19] It is the information processing system which was equipped with the field only for reading, and the writable area, and was equipped with the information record medium with which at least one side of a main program and the program for medium distinction was stored in the field only for said reading, and the information processor which reads said program for medium distinction before reading said main program to this information record medium,

A proper information acquisition means to acquire the proper information currently recorded on the meandering slot currently beforehand formed in said information record medium based on said program for medium distinction,

A means to forbid reading of said main program when said proper information cannot be acquired with this proper information acquisition means,

A justification judging means to judge the justification of said information record medium based on this proper information when said proper information is able to be acquired with said proper information acquisition means,

A means to forbid reading of said main program when reading of said main program is permitted when it is judged by this justification judging means that it is just, and it is judged that it is unjust, Information processing system characterized by preparation *****.

[Claim 20] It is the information processing system which was equipped with the field only for reading, and the writable area, and was equipped with the information record medium with which at least one side of a main program and the program for medium distinction was stored in the field only for said reading, and the information processor which reads said program for medium distinction before reading said main program to this information record medium,

A proper information acquisition means to acquire the proper information currently recorded on the meandering slot currently beforehand formed in said information record medium based on said program for medium distinction,

A means to permit reading of said main program when said proper information cannot be acquired with this proper information acquisition means,

A justification judging means to judge the justification of said information record medium based on this proper information when said proper information is able to be acquired with said proper information acquisition means,

A means to forbid reading of said main program when reading of said main program is permitted

when it is judged by this justification judging means that it is just, and it is judged that it is unjust, Information processing system characterized by preparation *****.

[Claim 21] Said proper information,

It is the information processing system according to claim 19 or 20 characterized by being the manufacture supply former information assigned for every manufacture supply origin of the information record medium currently beforehand recorded on said information record medium, and said proper information acquisition means acquiring said proper information by reading said manufacture supply former information.

[Claim 22] Said justification judging means,

Said proper information and said program are information processing system according to claim 19, 20, or 21 characterized by judging said justification by comparing the information for a judgment stored in the program currently recorded on said another information record medium.

[Claim 23] Said justification judging means,

Information processing system according to claim 19, 20, or 21 characterized by judging said justification by acquiring the information for a judgment recorded on predetermined fields other than the location which acquired said proper information on said information record medium, and comparing this information for a judgment with said proper information.

[Claim 24] Said information for a judgment,

It is the information processing system according to claim 23 which is enciphered and recorded and is characterized by said justification judging means judging said justification by comparing the information which decoded said information for a judgment enciphered with said proper information.

[Procedure amendment 2]

[Document to be Amended] Specification

[Item(s) to be Amended] 0017

[Method of Amendment] Modification

[Proposed Amendment]

[0017] According to invention according to claim 6, the program for a medium judging It is stored in the field only for reading of the information record medium equipped with the field only for reading, and the writable area with a main program. Before a main program is read by computer, it is the program for a medium judging read by the computer. The proper information acquisition process which acquires the proper information currently recorded on the computer by the meandering slot currently beforehand formed in the information record medium, The process which forbids reading of a main program when proper information cannot be acquired according to a proper information acquisition process. The justification judging process of judging the justification of an information record medium based on proper information when proper information is able to be acquired according to a proper information acquisition process, When it is judged according to a justification judging process that it is just, reading of a main program is permitted, and when it is judged that it is unjust, it is characterized by performing the process which forbids reading of a main program.

[Procedure amendment 3]

[Document to be Amended] Specification

[Item(s) to be Amended] 0018

[Method of Amendment] Modification

[Proposed Amendment]

[0018] According to invention according to claim 7, the program for a medium judging It is stored in the field only for reading of the information record medium equipped with the field only for reading, and the writable area with a main program. It is the program for a medium judging read by the computer before a computer reads a main program. The proper information acquisition process which acquires the proper information currently recorded on the computer by the meandering slot currently beforehand formed in the information record medium, The process to which reading of a main program is permitted when proper information cannot be acquired according to a proper information acquisition process, The justification judging process of judging the justification of an information record medium based on proper information when proper information is able to be acquired according to a proper information acquisition process, When it is judged according to a justification judging process that it is just, reading of a main program is permitted, and when it is

judged that it is unjust, it is characterized by performing the process which forbids reading of a main program.

[Translation done.]